

## **REMARKS**

Claims 1-32 are pending in this application. Claim 11 is canceled. Claims 1 and 12 are amended, and new claims 33-36 are newly added. No new matter is added by these amendments or additions. Upon entry of these changes, claims 1-10 and 12-36 will be pending.

Claims 1 and 12 are amended to provide that the axial flow apparatus is configured so as to provide an axial gas flow directed upward, and that this upward axial flow suspends at least part of the solid particles placed within the reactor. Support for these amendments may be found, among other places, in Figure 1 (showing the upward spiral of gas flow), and the original specification page 7, line 20 through page 8, line 4, and page 9, lines 7-23.

Claims 33-36 are added to provide a method for fluidization treatment of solid particles, said method using a vortex reactor having an upward axial flow as described in claim 1. Support for these amendments are found, among other places, in original claim 12 as well as the original specification page 5, lines 21-28, and page 10, lines 5-24.

### ***Restriction Requirement***

Claims 1-32 are allegedly not so linked as to form a single general inventive concepts under PCT Rule 13.1 and so are allegedly subject to restriction under 37 CFR 1.499 as follows:

**Group I:** Claims 1-11, drawn to a vortex reactor comprising a frustum-shaped portion having a narrower part that is downwardly oriented;

**Group II:** Claims 12-17, drawn to a method of fluidization treatment of solid particles;  
and

**Group III:** Claims 18-32, drawn to a vortex reactor comprising a first charge and second charged electrodes.

According to the Examiner, the Groups of inventions do not relate to a single general inventive concept under PCT Rule 13.1 because under PCT Rule 13.2 they lack the same or corresponding special technical feature because claims 1, 12, and 18 are anticipated by U.S. Patent 4,801,435 (“the Tylko reference”).

Applicants traverse the restriction for the reasons given below. Nonetheless, without acquiescing to the present requirement and in an effort to advance prosecution, Applicants elect the subject matter of Group I (Claims 1-11) for prosecution on the merits. Applicants further submit that new claims 34-35, all of which depend directly or indirectly from claim 1, should be considered as part of this Group. Also, Applicants submit that claims 33 and 36 contain the same or similar point of novelty as to be considered to have the same special technical feature as the other claims. Applicants make such elections with traverse and expressly reserve the right to rejoin the non-elected claims and / or pursue the subject matter of the non-selected claims in one or more continuing or divisional application(s). Applicants remind the Examiner that, according to MPEP ¶ 8.01, “upon the allowance of a generic claim, applicant is entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.”

Applicants submit that, as amended, none of the claims are anticipated by the Tylko reference. Applicants further submit that claims 1-10, 12-17, (i.e., Groups I and II) and 33-36 all contain a special technical feature, such that they should not be subject to restriction. Independent claims 1 and 12, cited by the Examiner, have been amended to provide reactors or a method wherein the axial flow apparatus is configured so as to provide an axial gas flow directed upward, and/or so that the axial flow is generally directed upward. By contrast, the Tylko reference provides for no such configuration or directed gas flow. Figure 1 of the Tylko reference, supported by three separate descriptions in the text of that reference, especially shows the gas flow 16 as pointing downward. The only mention of upward particle movement results *not* from directed gas flow, but rather from being drawn by the lower pressure exhaust duct 17. As such, the reactor designs and principles of operation defined by the Tylko reference and the present application are fundamentally different. As such, the present reactor does provide a single general inventive concept under PCT Rule 13.1 and a special technical feature according to PCT Rule 13.2.

As correctly implied by the Examiner, PCT Rule 13.2 allows the Examiner the option to restrict only when this single general inventive concept is not met. Applicants submit that the

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cited claims all share such a single general inventive concept and request reconsideration and withdrawal of the present restriction requirement, at least with respect to these.

### **Conclusion**

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Applicants respectfully submit that all pending claims are in condition for allowance and entry of the present amendments and notification to that effect is earnestly requested. Should the Examiner have any further questions, he is invited to contact the undersigned attorney at the number below.

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